SOLA-SAT ENCODER (EHDMP-4)

Single MPEG-4 AVC/H.264

HD Encoder

User's Manual

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Chapter 1 Product Outline

1.1 Outline

Single AVC/H.264 HD Encoder is the newest broadcasting audio and video encoding device. It adopts the most advanced AVC/H.264 audio encoding algorithm, combined with advanced audio and video pre-dealing technology. This device can encode and transmit high-quality audio ＆ video with a low bit-rate. Also, it has several analog and digital video input interfaces (CVBS, YPbPr, SDI, and HDMI), and audio input interfaces (RCA, XLR, HDMI, AES and EUB). It's highly integrated and cost effective design gives users an excellent digital video encoding solution, allowing its wide use in DMB-T international modulator group networks, terrestrial digital TV and image monitoring etc.

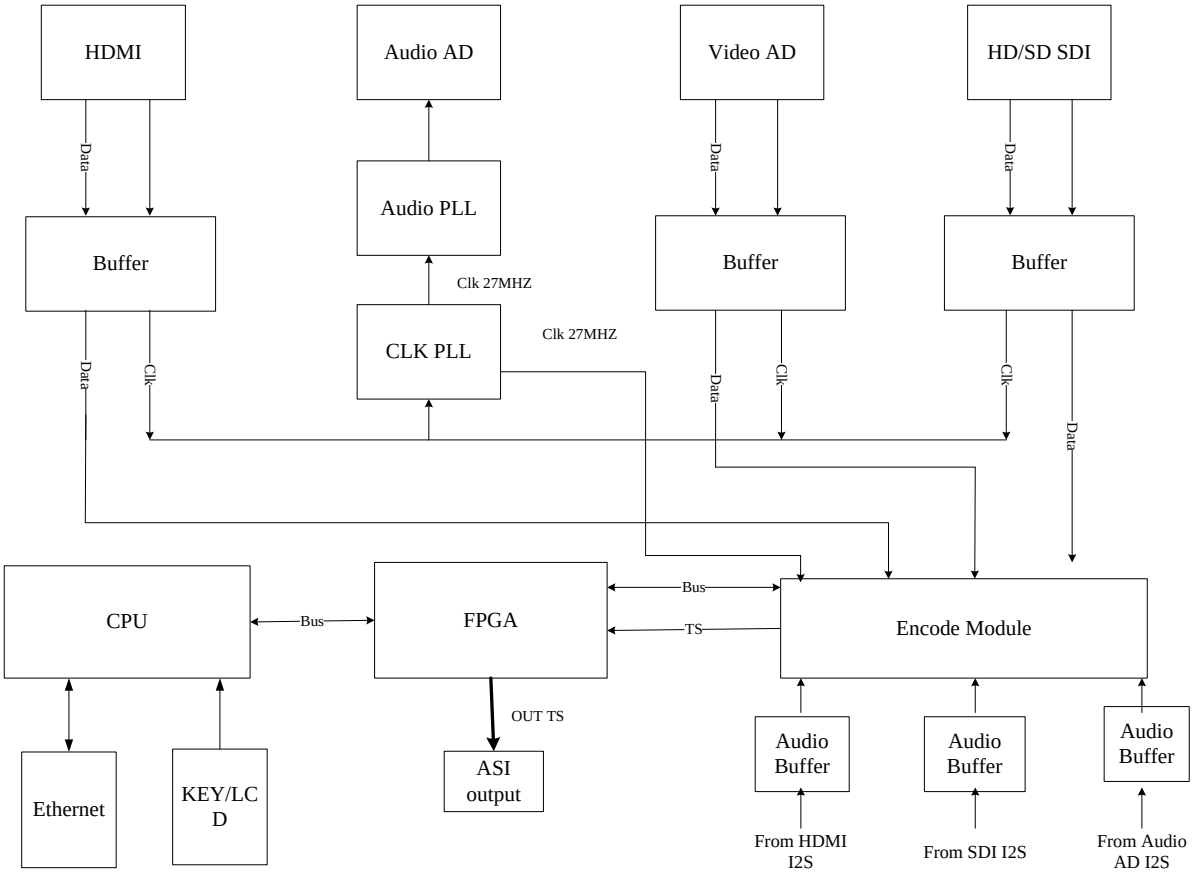
1.2 Features

- AVC/H.264 High Profile Level 4.0 high profile level video encoding, advanced video pretreatment technology.
- MPEG-1 Audio Layer2 audio encoding algorithm
- UDP media transmission protocols & unicast/multicast output support
- CVBS,S-VIDEO, HD-SDI and YPbPr analog video input interfaces
- HDMI and SDI digital video input
- XLR、RCA、AES/EBU analog digital audio input
- PAL and NTSC SD video formats
- The resolution formats is 720P, 1080I etc.
- LCD/keyboard control method.
- NMS monitoring

1.3 Specifications

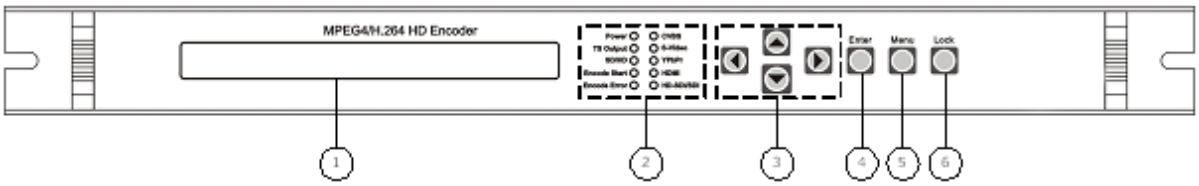
Video input		1 × Analog CVBS, BNC interface
		1 ×S-Video Analog YPbPr input, BNC interface
		1 × YPbPr video input, BNC interface
		HD/SD-SDI, BNC interface
		HDMI interface
Audio input		Analog stereo audio(balanced), XLR interface
		Analog stereo audio(unbalanced), BNC interface
		AES / EBU digital audio, XLR interface
		HD/SD-SDI embedded audio
Video	Resolution	1920×1080-60i, 1920×1080-50i,
		1280×720-60p, 1280×720-50p
		720×480-60i(NTSC), 720×576-50i(PAL)
	Encoding	AVC/H.264 High Profile Level 4.0 for HD AVC/H.264 High Profile Level 3.0 for SD
	Bit-rate	0.8Mbps~20Mbps
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG-1 Layer 2
	Sampling rate	48KHz
	Resolution	24-bit
	Bit-rate	64Kb/s~384Kb/s
Stream output		2×ASI outputs, BNC interface
		SPTS over UDP, 10/100Base-T Ethernet interface (UDP unicast / multicast)
System function		LCD/keyboard operation, NMS support English control interface
		Ethernet software upgrade
General	Dimensions (W × D × H)	482mm×455mm×44.5mm
	Approx weight	8Kg
	Temperature range	0~45℃ (Operation), -20~80℃ (Storage)
	Power requirement	AC110V±10%, 50/60Hz AC 220V±10%,50/60Hz
	Power consumption	17.6W

1.4 Function Chart



1.5 Appearance and Design

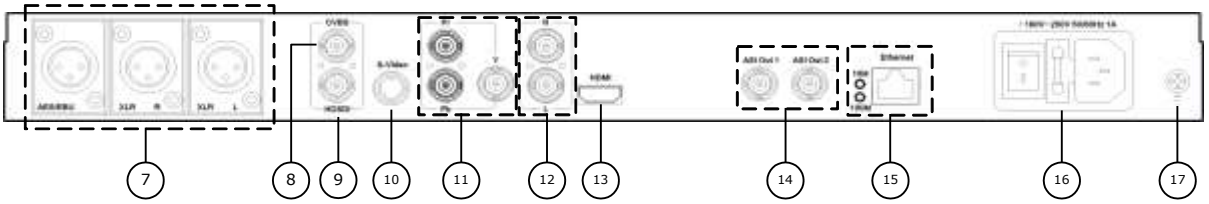
Front panel design:



Indicator area: All the indicators will be lit when the works at current mode. Under the normal condition, the power indicator, TS Output, Encode Start and CVBS will light on. But if the signal source deteriorates, the indicator of input interface, say, the indicator of CVBS will blink.

1.	LCD display screen	
2.	Indicator LED	Power：the device is working
		TS output：The output stream is TS
		SD/HD：SD/HD signal indicator
		Encoding Start：The device starts to encode
		Encoding Error：The device has encoding error
		CVBS ：CVBS input indicator
		S-VIDEO：S-VIDEO input indicator
		YPbPr：YPbPr input indicator
		HDMI：HDMI input indicator
		HD/SD-SDI：SDI input indicator
3.	Up/Down/Left/Right Arrow	
4.	Enter：Confirm key	
5.	Menu：Menu key	
6.	Lock：Lock key	

Rear panel illustration:



7.	Digital audio input interface: AES/EBU, XLR
8.	CVBS input interface
9.	HD/SD-SDI input interface
10.	S-VIDEO input interface
11.	YPbPr input interface
12.	Analog audio input interface
13.	HDMI input interface
14.	Two same ASI output interface
15.	10M/100M Ethernet interface
16.	Power switch and socket
17.	Ground pole

Chapter 2 Installation Guide

2.1 Acquisition Check

When users open the package of the device, it is necessary to check items according to packing list. Normally it should include the following items:

- Single MPEG-4 AVC/H.264 HD Encoder
- User's Manual
- Analog Audio/Video Composite Input Cable
- Power Cord

If any item is missing or mismatching with the list above, please contact local dealer.

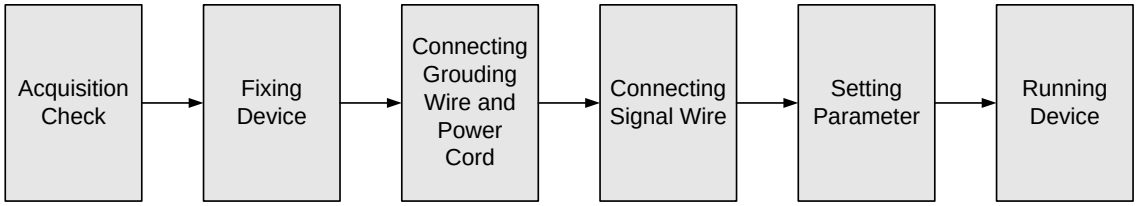
2.2 Installation Preparation

When users install the device, please follow the below steps. The details of installation will be described at the rest part of this chapter. Users can also refer rear panel chart during the installation.

The main contents of this chapter include:

- Checking the possible device missing or damage during the transportation
- Preparing relevant environment for installation
- Installing Encoder
- Connecting signal cables
- Connecting communication port (if it is necessary)

2.2.1 Device's Installation Flow Chart is illustrated as following：



2.2.2 Environment Requirement

Item	Requirement
Machine Hall Space	When user installs machine frame array in one machine hall, the distance between 2 rows of machine frames should be 1.2~1.5m and the distance against wall should be no less than 0.8m.
Machine Hall Floor	Electric Isolation, Dust Free Volume resistivity of ground anti-static material: $1X10^{7}$~$1X10^{10\Omega}$，Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/㎡)
Environment Temperature	5~40℃(sustainable)，0~45℃(short time)， installing air-conditioning is recommended
Relative Humidity	20%~80% sustainable 10%~90% short time
Pressure	86~105KPa
Door & Window	Installing rubber strip for sealing door-gaps and dual level glasses for window
Wall	It can be covered with wallpaper, or brightness less paint.
Fire Protection	Fire alarm system and extinguisher
Power	Requiring device power, air-conditioning power and lighting power are independent to each other. Device power requires AC power 220V 50Hz. Please carefully check before running.

2.2.3 Grounding Requirement

- All function modules' good grounding is the basis of reliability and stability of devices. Also, they are the most important guarantee of lightning arresting and interference rejection. Therefore, the system must follow this rule.
- Coaxial cable's outer conductor and isolation layer should keep proper electric conducting with the metal housing of device.
- Grounding conductor must adopt copper conductor in order to reduce high frequency impedance, and the grounding wire must be as thick and short as possible.
- Users should make sure the 2 ends of grounding wire well electric conducted and

be antirust.

- It is prohibited to use any other device as part of grounding electric circuit
- The area of the conduction between grounding wire and device's frame should be no less than 25mm^2.

2.2.4 Frame Grounding

All the machine frames should be connected with protective copper strip. The grounding wire should be as short as possible and avoid circling. The area of the conduction between grounding wire and grounding strip should be no less than 25mm^2.

2.2.5 Device Grounding

Connecting the device's grounding rod to frame's grounding pole with copper wire.

2.3 Cable Connection

The grounding wire conductive screw is located at the right end of rear panel, and the power switch, fuse, power supply socket is just beside ,whose order goes like this, power switch is on the left ,power supply socket is on the right and the fuse is just between them.

- Connecting Power Cord

  User can insert one end into power supply socket, while insert the other end to AC power.
- Connecting Grounding Wire

  Ideally the encoder should connect directly to ground, but if grounding is shared with other devices the resistance should be less than 1Ω.

☞Caution:

Before connecting power cord to H.264/ AVC HD Encoder, user should set the power switch to "OFF".

2.4 Signal Cable Connection

The signal connections include the connection of input signal cable and the connection of output signal cable. The input audio & video has five choices including CVBS, S-VIDEO, YPbPr, HD/SD-SDI and HDMI. While the output TS stream has ASI and IP interfaces, and both of the two output ports have signal output. Also, user can close or open the IP output and flexibly select the interface based on their needs. The details are as follows:

AV Input Wire Illustration

ASI Output Wire Illustration

HDMI Input connection wire illustration

YPbPr input wire illustration

2.4.1 Unbalanced audio and CVBS video input connection

User can firstly find the CVBS input connector on the device according to the connector mark described on the rear panel illustration, and then connect the analog CVBS video and unbalanced audio cables (in the accessories). One end is connected to the signal source equipment while the other end to the encoder's CVBS input port. The encoder's Analog Composite Video input port and its connection are illustrated as follow:

Note: Users must select the video field mode after choosing this input interface, if not, the encoding video mode will not be mismatching with the input source format, and the device will not work normally.

2.4.2 S-video input connection

User can firstly find the S-video input connector on the device according to the connector mark described on the rear panel illustration, and then connect the S-video cable. One end is connected to the head-end equipment's S-video output interface while the other one to the encoder's S-video input interface. The S-video input port and its connection are illustrated as follows:

2.4.3 HDMI Input connection

User can firstly find HDMI input interface on the device according to the connector mark described on the rear panel illustration, and then connect the HDMI cable. One end is connected to the head-end device's HDMI output interface while the other one to the encoder's HDMI input interface. The HDMI input port and its connection are illustrated as follows:

Note: After selecting the HDMI input port, it is unnecessary to manually set the resolution, for the device will automatically identify the resolution. Currently, the device can not recognize 1080P, so if the resolution of the video input source is 1080P, the device will not discern the signal source, so the device might not work normally.

2.4.4 HD/SD-SDI Input Connection

Users can firstly find the HD/SD-SDI input interface on the device according to the connector mark described on the rear panel illustration, and then connect it with the HD/SD-SDI or ASI cables. One end is connected to the head-end equipment's HD/SD-SDI output interface while the other one to the encoder's HD/SD-SDI input interface. The HD/SD-SDI input port and its connection are illustrated as follows:

Note: HD SDI and SD SDI use the same SDI input port, users can select corresponding mode through the menu on the LCD or NMS operation, and then the system will automatically detect the video format and scrolling display it on the LCD interface. While the HD SDI can not support 1080P currently, so if the input video resolution is 1080P, the device will not start encoding or switch the resolution to 1080P and will cause encoding error.

2.4.5 YPbPr Input Connection

Users can find YPbPr input interface on the device according to the connector mark described on the rear panel illustration, and then connect the YPbPr cable. One end is connected to the head-end device's YPbPr output interface while the other one to the encoder's YPbPr input port. The YPbPr input port and its connection are illustrated as follows:

Note: If the input video format is mismatching with the configuration video format, it will cause the device does not encode or appear some encode error. And the Y input port must be connected, otherwise, the device might not detect the input signal; and the Pr and Pb input ports must be connected to corresponding ports, otherwise, the program color might be abnormal.

2.4.6 ASI Output Interface Connection

User can find ASI output interface on the device according to the sc connector mark described on the rear panel illustration, and then connect the ASI cable. One end is connected to the Encoder's ASI output interface while the other one to the streaming multiplexer's or modulator's ASI input interface. The ASI output port and its connection are illustrated as follows:

Chapter 3 Operation

Single MPEG-4 AVC/H.264 HD Encoder's front panel is user operating interface. Before operating, user can decide whether directly use the default setting or customize the input and output parameters setting. The detail operations go as follows:

Keyboard Function Description:

MENU: Canceling presently entered value, resuming previous setting; Return to previous menu.

ENTER: Activating the parameters which needs modify, or confirming the change after modification.

LEFT/RIGHT: choosing and setting the parameters.

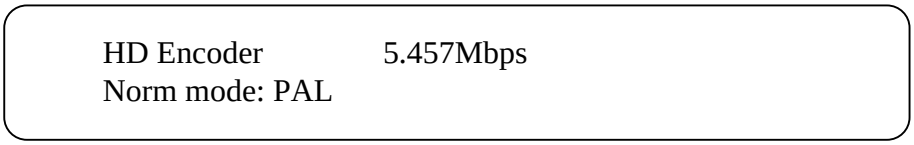
UP/DOWN: Modifying activated parameter or paging up/down when parameter is inactivated.

LOCK: Locking the screen / cancelling the lock state, and entering the main menu after the initialization of the device. After pressing lock key, the system will question the users to save present setting or not. If not, the LCD will display the current configuration state.

3.1 Initialization

After switching on the encoder, the LCD interface will display the company name, device modes, and the current code rate in the first row while the video input interface, resolution and frame rate will scroll in the second row as follows:

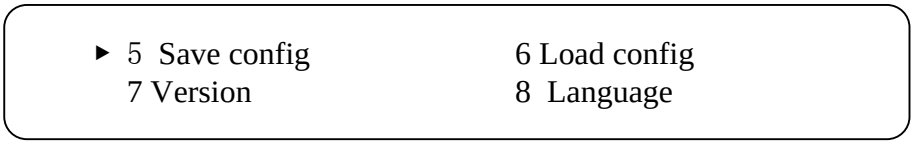
HD Encoder	5.457Mbps
Resolution: 576I	Video input: CVBS



Alarm information will be shown as below when signal loss or unsupported video input present.

3.2 General Settings

The LCD will display the following page after pressing "Lock" key.

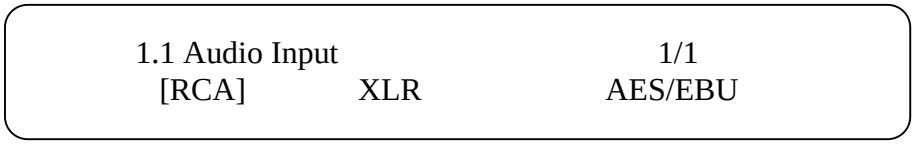


3.2.1 Audio Settings

3.2.1.1 Audio Input

After entering the submenu by pressing ENTER key, user can choose one of the following three audio inputs; the option with bracket is the current state. The LCD will display the following interface:

1/1/ means the current page

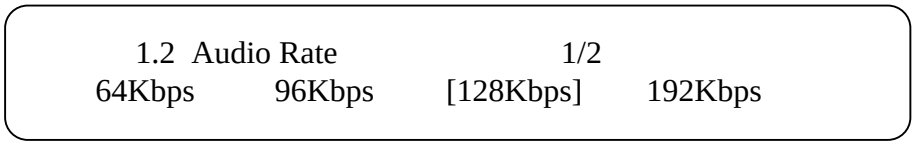


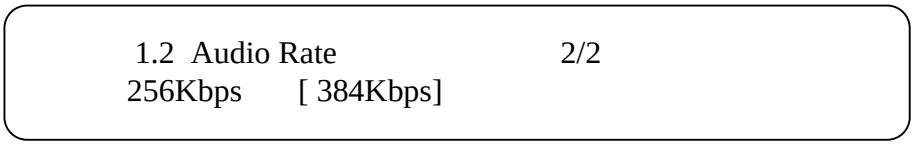
3.2.1.2 Audio Bit-rate

After entering the submenu by pressing "Enter" key, user can choose one out of the following bit-rates, the option with the bracket is the current choice. The LCD will display the following page.

"1/2" means the current page. And the number at the upper and right corner is the total effective output audio bit-rate.

By pressing "Enter" key in this interface, the LCD will display the following page:





3.2.1.3 Audio Fs, Audio Layer and Audio ES Mode

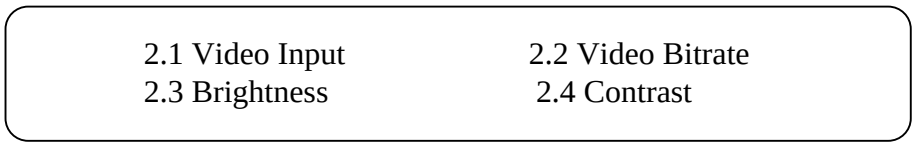
These three items are read-only, users can not modify it. So after enter the submenu, the LCD will display the following pages:

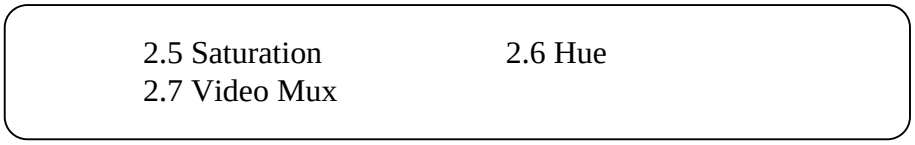
3.2.1.4 Audio Gain

Device will firstly identify whether this equipment supports the audio gain or not. If this device supports this function, the default value is -11db, if not, the default value is 0db, and the submenu goes as follows:

3.2.2 Video Setting

Device displays the following submenu after user enters into the video setting by pressing "Enter" key.



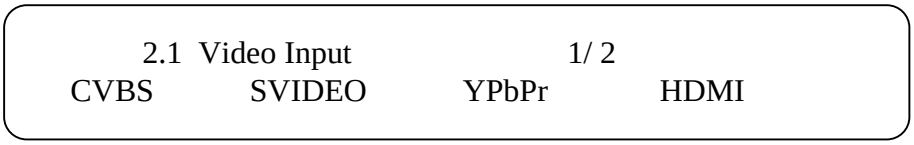


3.2.2.1 Video Input

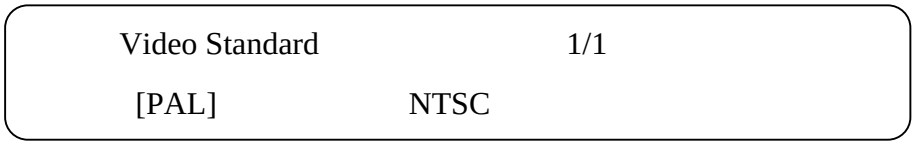
There are six video input formats to select. After pressing enter key to the corresponding submenu, the LCD will display the following pages:

The option with bracket is the current choice

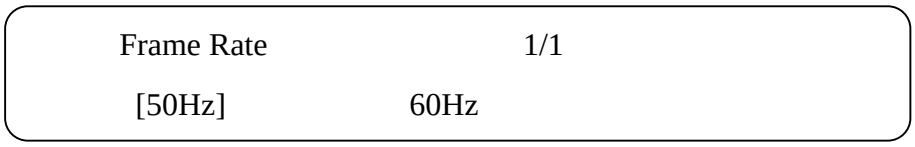
1/2 means the current page



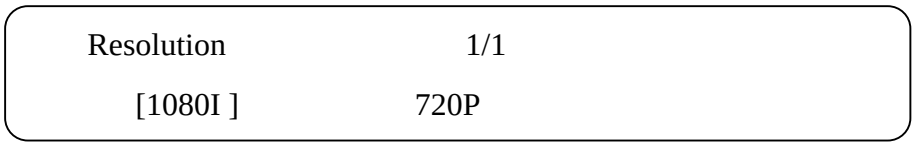
Under the submenu, users can enter the video standard by press enter key. The category of the CVBS and SVIDEO is displayed as follows:



When users enter the submenu of YPbPr by pressing enter key, the LCD will display the following pages:

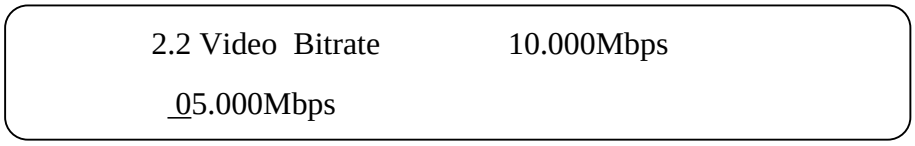


Users can enter the following page by pressing enter key again:



3.2.2.2 Video Bit-rate

User can set the video code rate (0.8M to 20M adjustable scope). After setting, user can see the real-time rate changes above the screen. The number at the right and upper right corner is the total effective bit-rate



3.2.2.3 Video Input Brightness，Contrast，Saturation and Hue Information

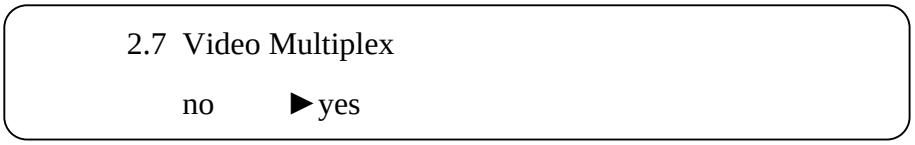
User can adjust the relevant parameters of input video with the submenus of Brightness, Contrast, Saturation and Hue, and the adjustable range is 0~249.

The figure outside the parentheses is decimal while the inside is hexadecimal.

3.2.2.4 Video Mux

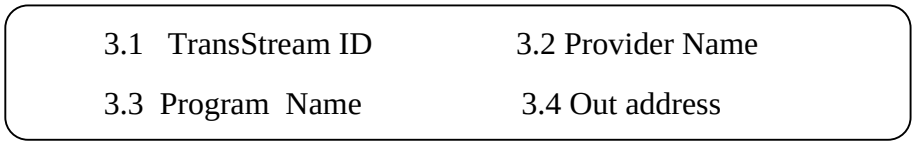
This menu can provide audio separately coding function and transmit digital audio broadcasting. The system will encode the AV signal synchronously when you choose **YES** and only audio encoding when user chooses **NO**.

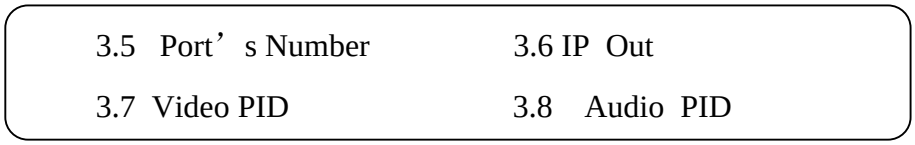
After users press enter key again, the interface will display the following page:

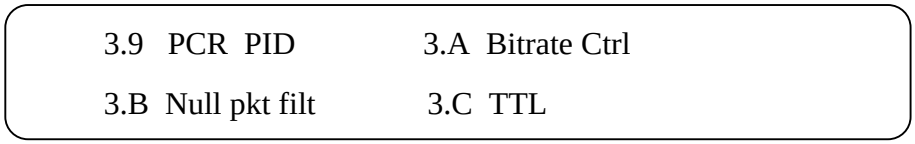


3.2.3 Output Setting

In this menu, users can set relevant output parameters, and the LCD will display the following page after pressing enter key.







3.2.3.1 Transport Stream ID Settings

User can set the parameters of transport stream ID of SDT table in TS stream through moving the cursor by pressing the **LEFT/RIGHT** key to the figure that needs to be modified, and then modify the parameters by pressing the **UP/DOWN** key after entering the edit state by pressing the **ENTER** key. After finishing modification, user can press **ENTER** to take effect. The maximum number is **65535**

3.2.3.2 Provider Name and Program Name

The provider name can only be modified in the NMS, and in this interface, users can just check them. By pressing enter key, the LCD will display the following pages:

3.2.3.3 Out address Settings

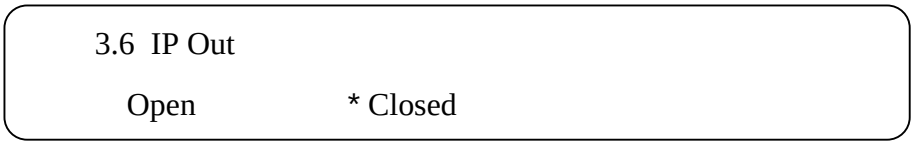
In this interface, users can set the output address by pressing enter key to enter the main submenu. The LCD will display the following page:

3.2.3.4 Port Number

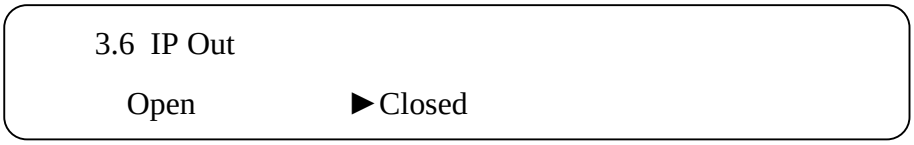
In this interface, users can set the output IP port's number, the maximum number is 65535. The LCD will display the following page after pressing enter key.

3.2.3.5 Enable or disenable IP output

User can enable or disable the IP output function by setting the value to **OPEN** or **CLOSED** at this menu.



After users press enter key again, the interface will display the following page:



3.2.3.6 Video/Audio/PMT/PCR PID Settings

Users can set these parameters by pressing enter to enter these submenus. The LCD will display the following pages, and the maximum PID number cannot exceed 0x1fff.

3.2.3.7 Bit-rate Ctrl Setting

User can choose CBR & VBR at this menu. CBR (Constant Bit-rate) means that the bit-rate will be a constant value. VBR (Variable Bit-rate) means that the bit-rate will always change along with the video scene changing.

NOTE: The option with bracket is the current choice.

3.2.3.8 NULL PKT FILT

User can decide whether device filters the null pockets in the IP output. For IPTV implementation, filtering null pockets can save network bandwidth, but it will deteriorate PCR accuracy. Therefore, it is not recommended for DVB implementation.

The interface will display the following page after pressing enter key again:

3.2.3.9 Output IP TTL Setting

Time-to-live (TTL) is a value in an Internet Protocol (IP) packet that tells a network router whether or not the packet has been in the network too long and should be discarded. The value ranges from 0 to 255.User can set the number of networks,

which the output IP pockets can pass before the IP packets are discarded by router. The maximum value is 249.

3.2.3.10 Original Net ID

The original Net ID adjustment range is 0~65535.

3.2.4 Network Settings

Users can set relevant parameters in this menu, and the LCD will display the following pages after users pressing enter key.

The MAC address is read-only, and users can just check it in this interface.

3.2.4.1 IP Address, Subnet Mask, Gateway and Alarm Address Settings

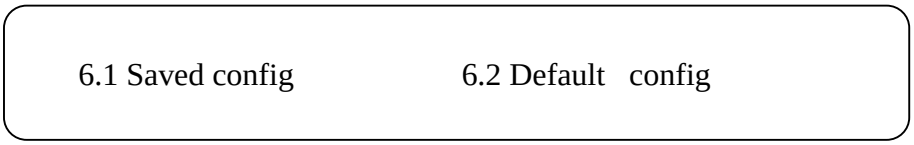
Users can set relevant parameters in these submenus, the LCD will display the following pages when users press enter key.

3.2.5 Save Configuration

Users can choose yes or no to save the current parameters. The LCD will display the following page when users press enter key.

3.2.6 Loading Configuration Setting

User can restore equipment default parameters which have been loaded and saved via this menu.



3.2.6.1 Loading Saved configuration

User can restore the device into the last saved configuration by choosing **yes.**

3.2.6.2 Restoring Default configuration

User can restore the device into factory configuration by choosing **yes**.

3.2.7 Version

Users can check the hardware version and software version in this interface after pressing enter key.

SW 4.24 HW 2.0

3.2.8 Language Setting

Users can set the desired language in this interface; the option with bracket is the current choice.

8. Language

[English] 中文

Chapter 4 NMS Operation

Network Management System Profile

Network management system is applied to digital TV equipment operating, controlling and management and parameters setting, etc. It centralizes digital TV equipment through network.

4.1 Installation

The software doesn't need special installation. Users can just copy "Network Management Software X.XXY.exe" to the specified directory (X.XX is version number, Y represents language. For example: the version number of network management software 4.01E.exe is 4.01 English version). When the network management software is running, it will generate two files as follows:

- Network management software X.XXY.log (It preserves the log file.)
- Info. Bin (It's the user configuration file.)

4.2 Software Operation

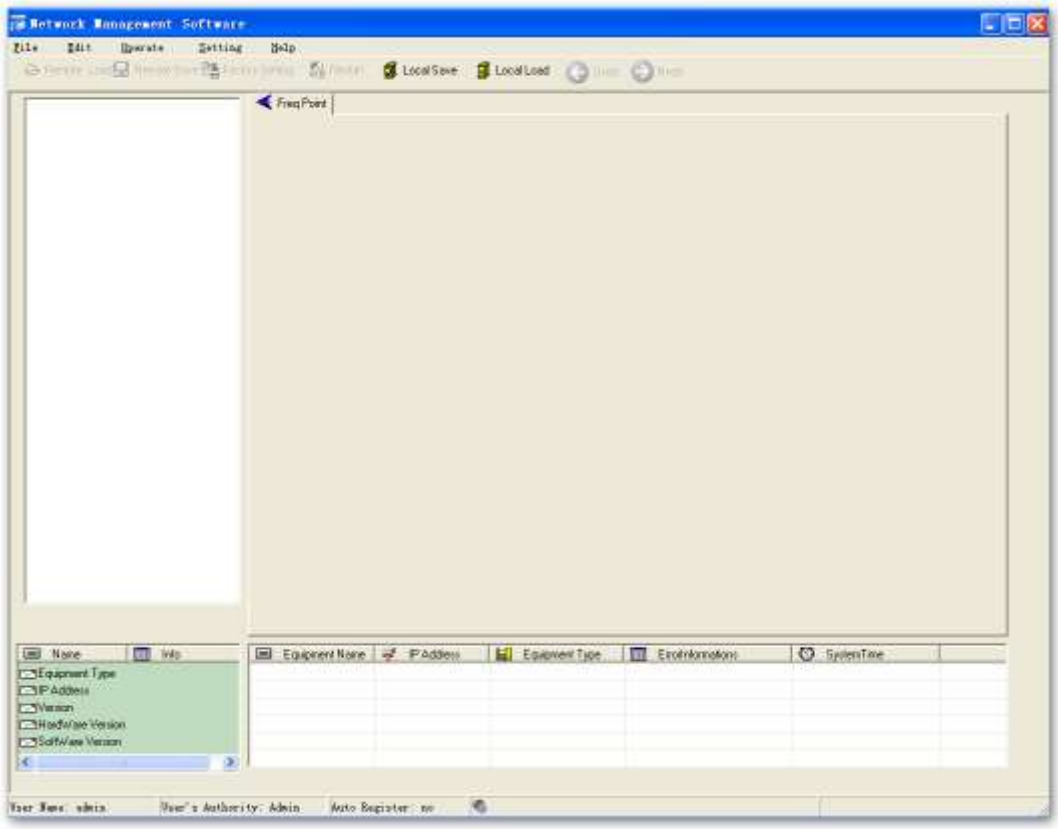
4.2.1 Login Interface

After executing the NMS software, user can input username and password at the pop-up "User sign In" window.

User can login the NMS by pressing **Confirm** key after inputting user name and password. Upon the inputs, the software will verify them with database record

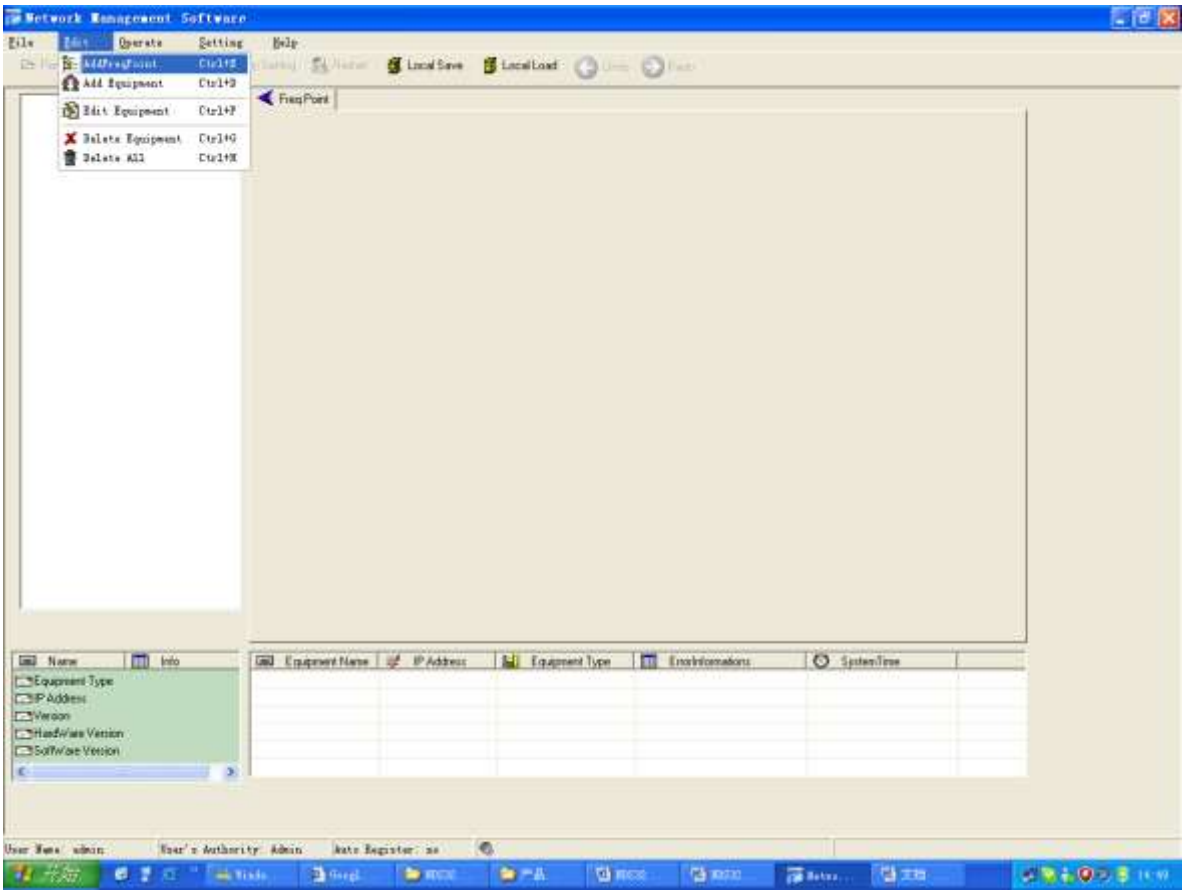
automatically. If both of them are correct, the main interface will appear. Both of the default user name and password are **admin**.

4.2.2 Main Interface

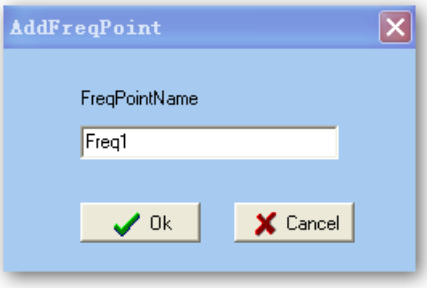


User can create a device node tree in the left column by adding, modifying and deleting the device node. This software provides a powerful node operation function, and the user can edit various parameters in the device tree for management and classification.

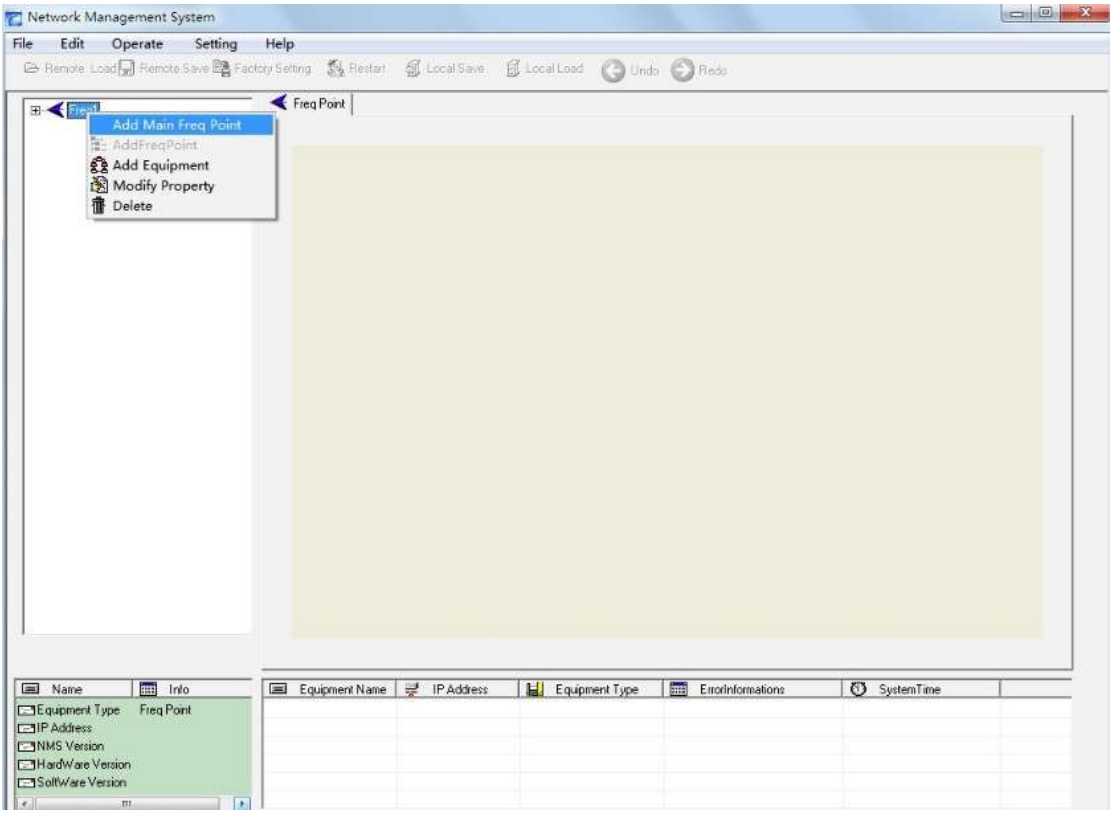
4.2.3 Adding Frequency Point



The Add Freq Point dialog box popes up when the user clicks the Add Freq Point item in the Edit pull down menu on the menu row. The device will confirm the given frequency while user clicks **OK**.

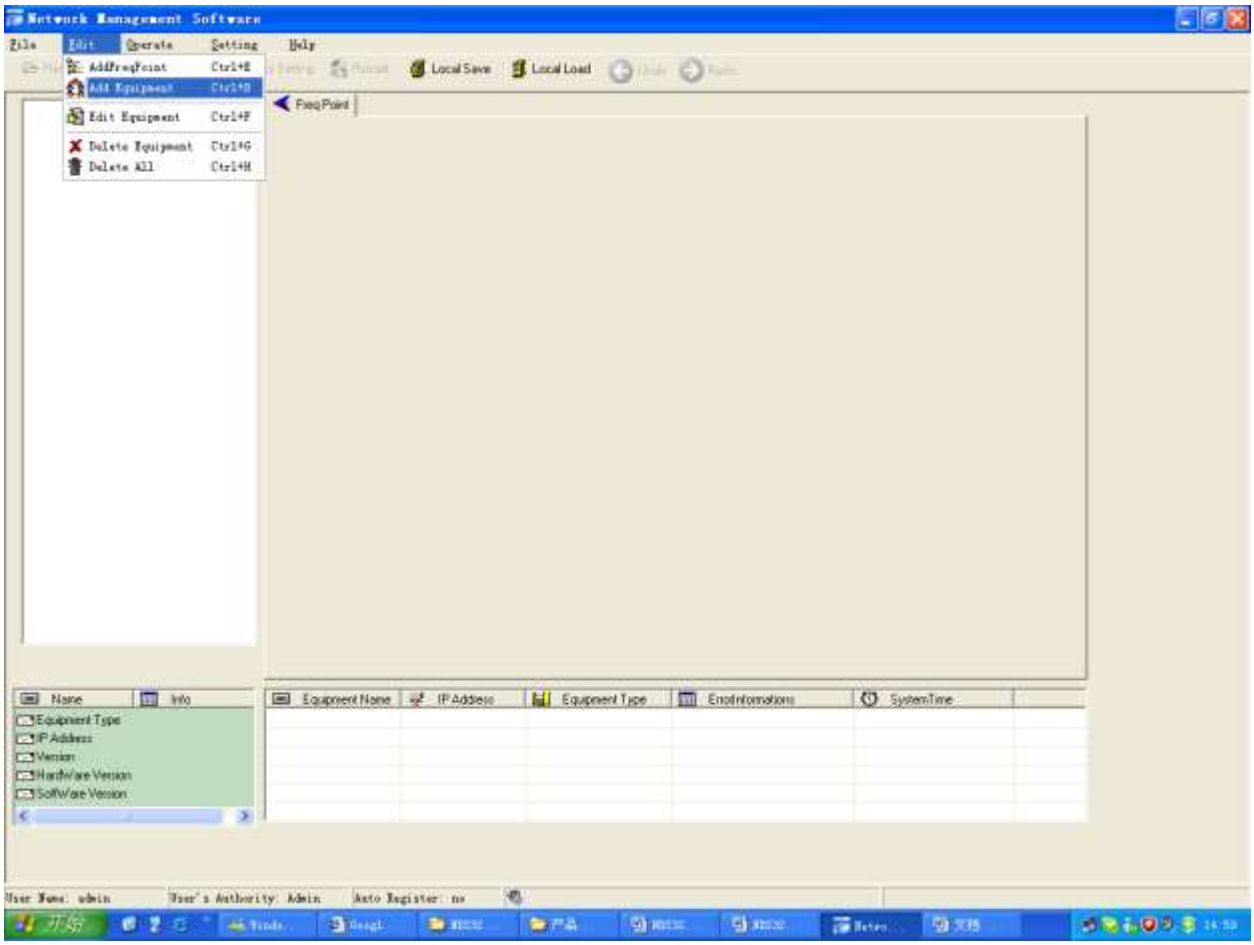


User can also click right mouse key to pop up the short-cut menu in device tree or in the left blank column, then the corresponding dialog box will pop up by choosing **Add Main Freq Point.** The device will confirm the given frequency while user clicks **OK.**

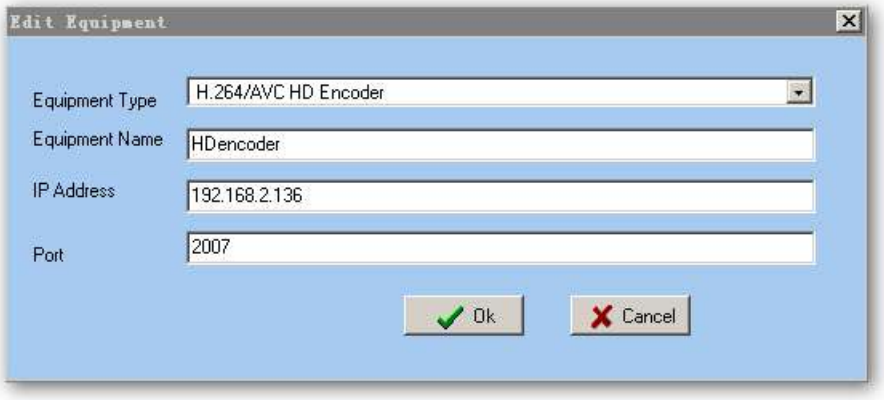


4.2.4 Adding Equipment under Given Frequency Point

User should choose the frequency point in advance, and then the dialog box of Add Equipment will pop up when user clicks "Add Equipment" item in the Edit pull down menu on the menu row.



4.2.5 Edit Equipment Interface

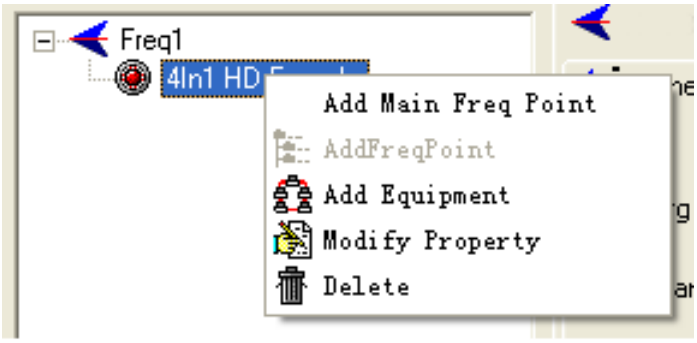


User should follow the steps as below:

- Choosing the connected equipment type in drop down list of "Equipment Type" by clicking the "▼".
- Inputting the Equipment Name
- Inputting the device IP Address
- Inputting the device Port Number

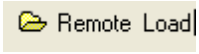
4.2.6 Delete Equipment

User can choose the equipment to be deleted in the left column, and then click the "delete" item in the drop down menu which appears by clicking the right mouse key.



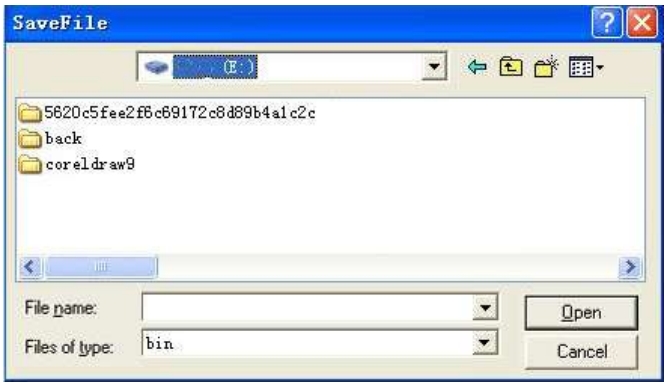
4.2.7 Save Configuration

After finishing all the parameters setting, user can click

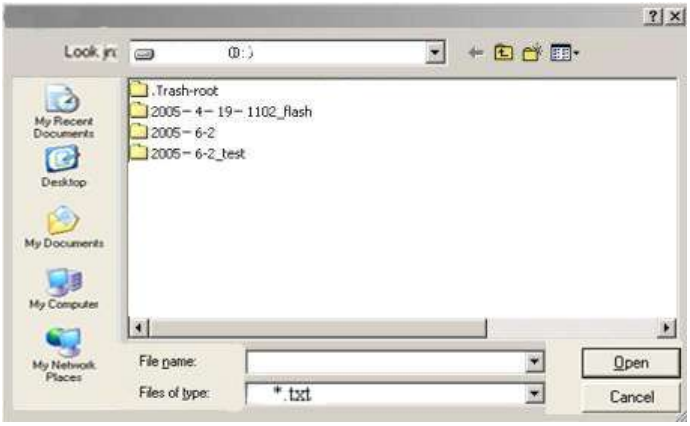
button on the toolbar to save the modifications to the device's flash, while user can also reload the saved parameters from device's flash and refresh the device's parameters setting according to the loaded values by clicking 

Alternatively, user can also click the

button on the toolbar to popup the "save file" dialog box, which gives prompts to save all the device's parameters as binary files in the computer's hard disk.



Similarly, user can choose to click the Local Load button on the toolbar to popup the read file dialog box, to read the stored binary file and set the device's parameters according to the loaded binary files.



4.3 HD Encoder Operation

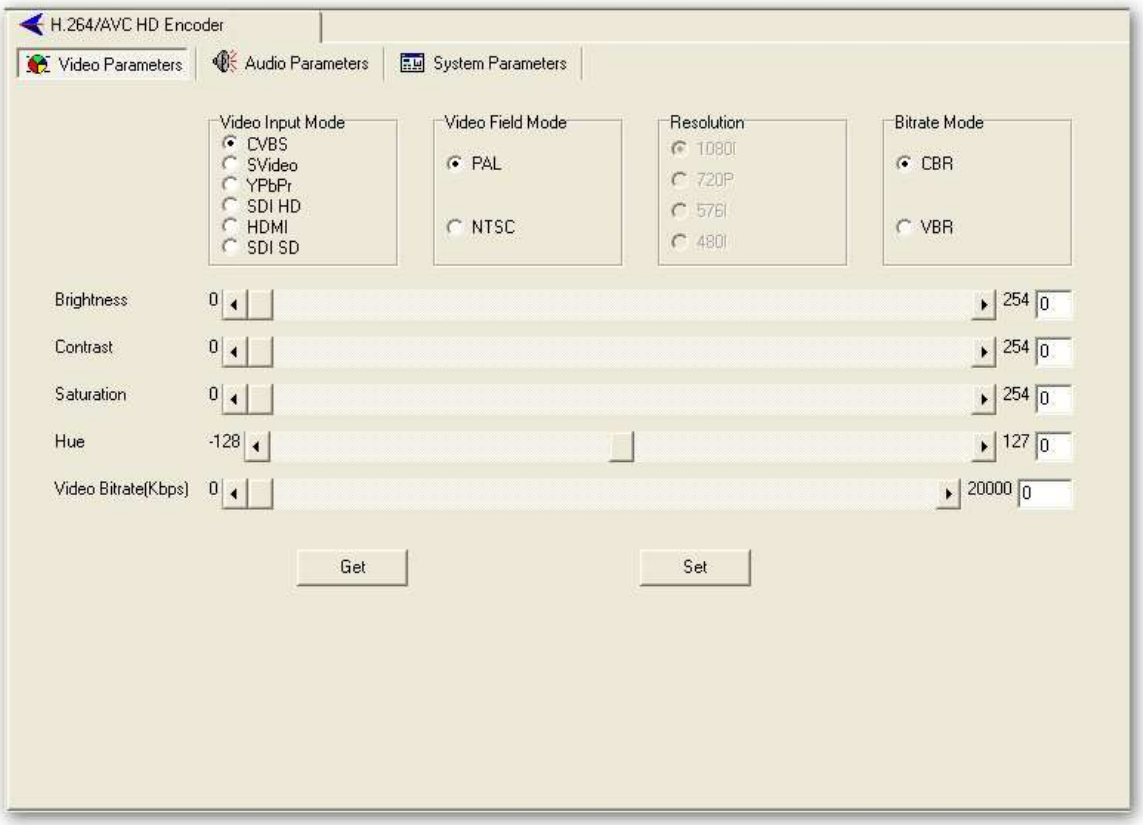
User can choose the AVC/H.264 HD encoder in the device tree; the procedure will display the encoder interface in operating area. The interface is mainly composed of encoding video parameters, audio parameters and the encoding system parameters, etc.

Set: making the current parameters, which show in the NMS software, activate.

Get: reading the current device's activating parameters and show them on NMS software.

4.3.1 Video Parameters Setting

The gray radio button means that the value is read-only, and users can just check the current state.



4.3.1.1 Video Input Mode

Users can set one of the six video input modes, but every input mode must be according with exclusive resolution, otherwise, the device might not recognize the signal source. Users can also refer detail operation in **2.4**

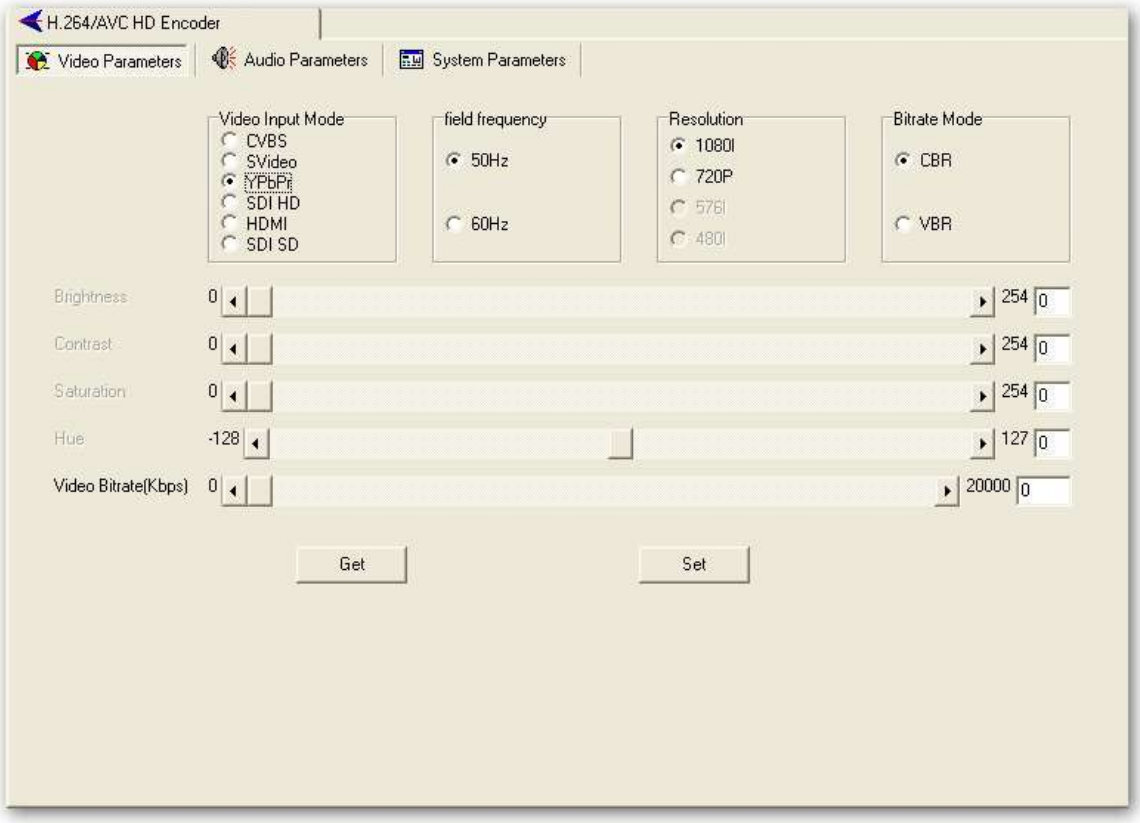
4.3.1.1.1 CVBS and S-Video Input Modes

Under these two input modes, the device resolution can not be modified, so users can just check the default settings. And users can select desire video field mode and bit-rate mode. The details are displayed in the above picture. The default video field of CVBS input mode is PAL format.

The CVBS video input mode support SD signal with PAL (720*576_50i) and NTSC (720*480_60i) format.

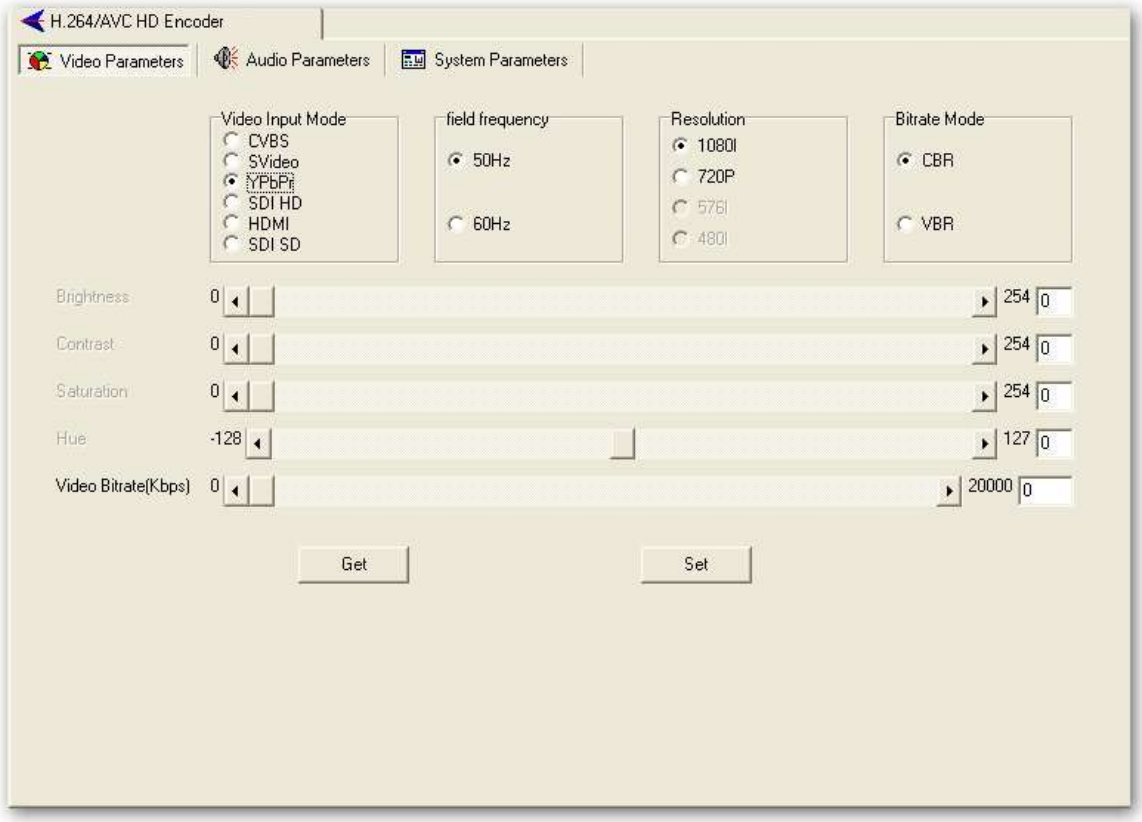
4.3.1.1.2 YPbPr Input Mode

It supports four kinds of HD formats (1280*720P_60/ 1280*720P_50, 1920*1080I_60/ 1920*1080I_50). In this interface, users can set the field frequency, resolution and bit-rate mode. The details are illustrated in the following page.



4.3.1.1.3 HD/SD SDI and HDMI Input Mode

Under these three video input modes, users can just modify the bit-rate mode, and the field frequency and resolution are just read-only, so users can just set the bit-rate mode in this video mode, the detail operation is illustrated in the following page.



4.3.1.2 Brightness, Contrast, Saturation and Hue Settings.

The modifications of these items are totally corresponding with the video input mode. And these four values can be modified if users select CVBS or S-Video video input mode, otherwise, they are read-only. Users can see it in **4.3.1.1.1-4.3.1.1.3**

4.3.1.3 Video Bit-rate

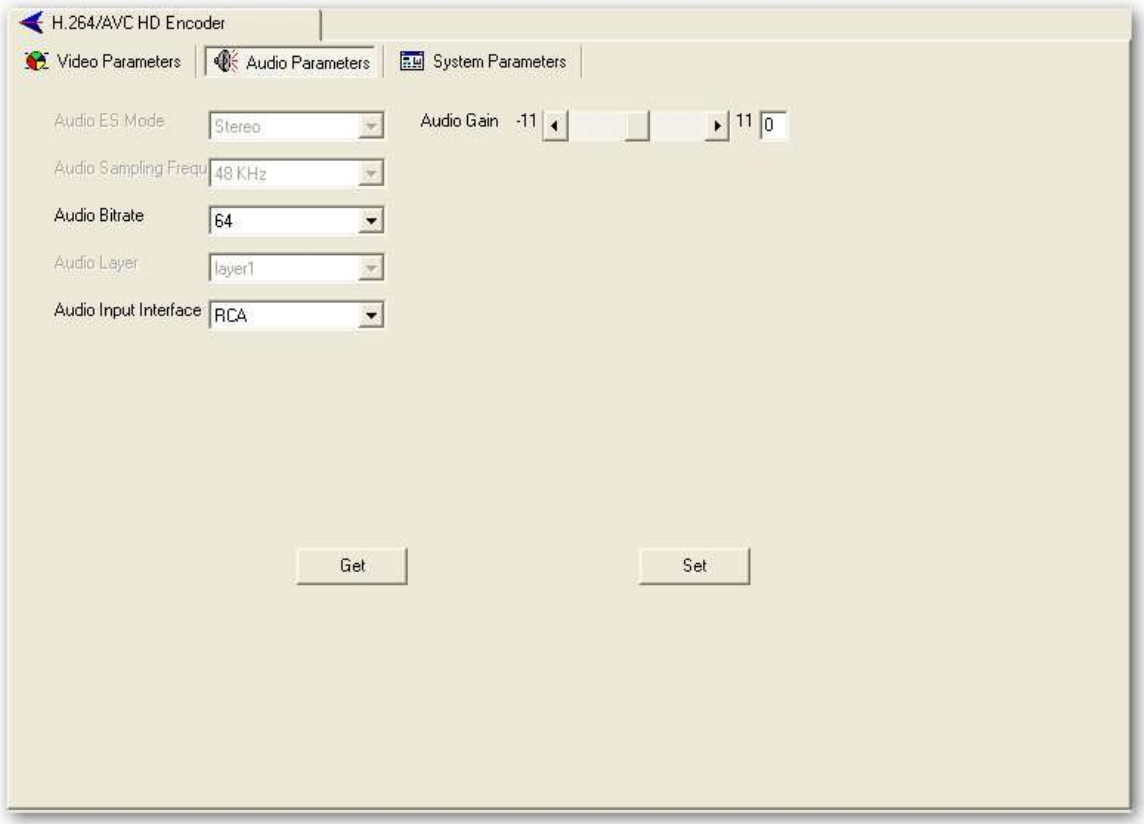
This scrollbar decide this channel's video encoding bit-rate. By moving the scrollbar, user can set this channel's program's video bit-rate.

4.3.1.4 Bit-rate Mode

User can choose CBR & VBR at this menu. CBR (Constant Bit-rate) means that the bit-rate will be a constant value. VBR (Variable Bit-rate) means that the bit-rate will always change along with the video scene changing.

4.3.2 Audio Parameters Settings

The gray radio button means that the parameter is read-only, and users can just check it.



4.3.2.1 Audio ES Mode

This gray radio button means the audio mode is always stereo.

4.3.2.2 Audio Sampling Frequency

This gray radio button mean that the audio sampling frequency is always 48 KHz, and it is default setting, users can not modify it.

4.3.2.3 Audio Bit-rate setting

In this pull-down list, users can select one of the following audio bit-rate. Also, users can refer **3.2.1.2** for some detail operation.

4.3.2.4 Audio Layer

Users can check the device audio Layer is always Layer 1.

4.3.2.5 Audio Input Interface

In this pull-down list, users can select the audio input format, but the interface must be according with the related resolution, otherwise, the device can not recognize the signal source.

4.3.2.6 Audio Gain

This scroll ball indicates the audio gain function of the device, and users can modify

the parameter by moving the scroll ball. But if the input interface is HDMI, the audio gain function is read-only, so users can not modify it.

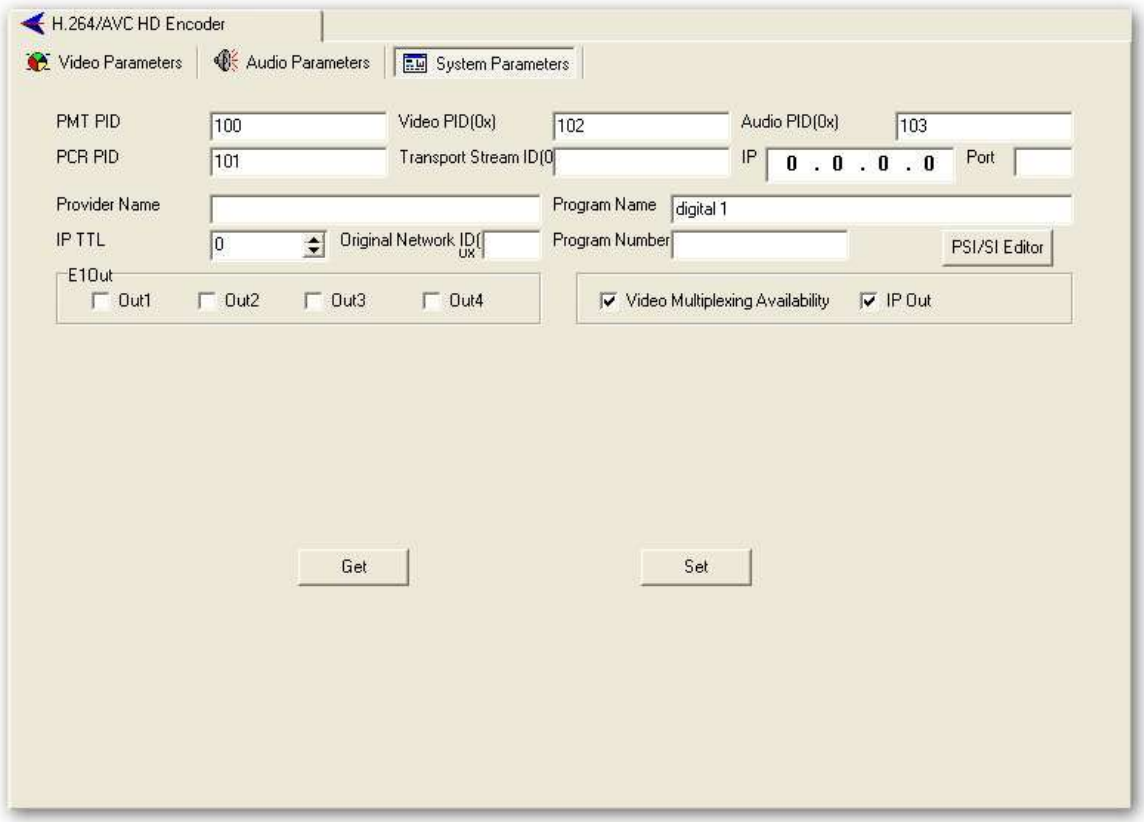
4.3.3 System Parameters Settings

User can click **Get** to read the default settings from encoder, or separately set the system information such as IP address and PMT/PCR/video/audio PID video format on this table, and then click **Set** to save the settings. And the provider name and program name can be modified on this table.

PMT: The PMT (Program Map Table) identifies and indicates the locations of the streams that make up each service and the location of the Program Clock Reference fields for a service.

PCR: Program Clock Reference

PID: Packet Identifier



4.3.3.1 PMT PID

This field sets PMT PID. The value ranges from 0 to 0x1FFF.

4.3.3.2 Video PID

This field sets Video PID. The value ranges from 0 to 0 x1FFF.

4.3.3.3 Audio PID

This field sets Audio PID. The value ranges from 0 to 0 x1FFF.

4.3.3.4 PCR PID

This field sets PCR PID. The value ranges from 0 to 0 x1FFF.

4.3.3.5 Transport Stream ID

This is a 16-bit field which serves as a label for identification of this TS from any other multiplex within the delivery system. The value ranges from 0 to 0xFFFF.

4.3.3.6 Output IP Address

This field indicates the destination of IP output.

4.3.3.7 IP Output Port

The field indicates the IP output stream going to the Port of the destination IP.

4.3.3.8 Provider Name

This field sets the name of the program provider.

4.3.3.9 Program Name

This field sets the name of the program.

4.3.3.10 Program Number

This field sets the number of the programs.

4.3.3.11 IP TTL

Time-to-live (TTL) is a value in an Internet Protocol (IP) packet that tells a network router whether or not the packet has been in the network too long and should be discarded. The value ranges from 0 to 255.

4.3.3.12 Original Network ID

This 16-bit field gives the label identifying the network ID of the originating delivery system. The value ranges from 0 to 0xFFFF.

4.3.3.13 PSI/SI Editor

This button will trigger the PSI/SI Editor for some users' advanced usage. For more detail, please refer to the manual of PSI/SI.

4.3.3.14 EI Out

Users can open the EI out function in this field, and users can simultaneously open four EI out.

4.3.3.15 Video Multiplexing Availability

This checkbox indicates that users can open the video multiplexing function, for detail operation, user can also refer **3.2.2.4**

4.3.3.16 IP Out

Users can decide whether to open the IP out function, for detail operation, users can also refer 3.2.3.5

Chapter 5 Troubleshooting

The ISO9001 quality assurance system has been approved by CQC organization. For guaranteeing the products' quality, reliability and stability, all products pass the testing and inspection before products are shipped from the factory. The testing and inspection scheme already covers all the Optical, Electronic and Mechanical criteria published by the supplier. To prevent potential hazard, we recommend strict adherence to the operation please strictly follow the operation conditions.

Preventive Measures

- Installing the device at the place in which environment temperature is between 0 to 45 °C
- Making sure good ventilation for the heat-sink on the rear panel and other heat-sink bores if necessary
- Checking the input AC within the power supply working range and the connection is correct before switching on device
- Checking the RF output level varies within tolerant range if it is necessary
- Checking all signal cables have been properly connected
- Frequently switching on/off device is prohibited; the interval between every switching on/off must be greater than 10 seconds.

Conditions need to unplug the power cord

- Power cord or socket damaged.
- Any liquid flowed into device.
- Any stuff causes circuit short
- Device in damp environment
- Device was suffered from physical damage
- Longtime idle.
- After switching on and restoring to factory setting, device still cannot work properly.
- Maintenance needed

Chapter 6 Packing List

- Single MPEG-4 AVC/H.264 HD Encoder 1pcs
- User's manual 1pcs
- ASI cable 1pcs
- Audio and Video cables 4pcs
- Power Cord 1pcs